STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

RUMFORD FALLS POWER COMPANY	)	MAINE WATER QUALITY PROGRAM;
RUMFORD, OXFORD COUNTY, MAINE	)	FEDERAL CLEAN WATER ACT
RUMFORD FALLS HYDROELECTRIC PROJECT	)	
L-17643-33-A-N (APPROVAL)	)	WATER QUALITY CERTIFICATION

Pursuant to the provisions of 38 MRSA Section 464 et seq., and Section 401 of The Federal Water Pollution Control Act (a.k.a. the Clean Water Act), the Department of Environmental Protection has considered the application of the RUMFORD FALLS POWER COMPANY with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. APPLICATION SUMMARY

a. Application: The applicant proposes the continued operation of the Rumford Falls Hydro Project, located in the Town of Rumford, Oxford County, Maine (See Exhibit #1).

b. Existing Project Features: The existing project consists of an upper station development, a lower station development and an impoundment (See Exhibit #2 for project features). Construction of the Rumford Falls Project began in 1890 and first generated electric current in 1903.

i. Upper Station Development. The upper station consists of the upper dam, a forebay, a gatehouse, penstocks, and a powerhouse. The upper dam is a concrete gravity structure 464 feet in length that rises 37 feet from its bedrock foundation and is approximately 42 feet wide at its base. The crest of the dam is at elevation 598.7 feet and the top of the pin-type flashboards is at elevation 601.24 feet.

The dam forms one side of the forebay while a concrete wall along the shoreline comprises the other. The gatehouse contains power operated headgate hoists and two gates for each of the four penstocks. The four penstocks are of riveted steel, three of which are 12 feet in diameter and one is 13 feet in diameter. Each penstock is approximately 110 feet in length, extending underground from the gatehouse to the powerhouse. The powerhouse consists of two adjoining sections. The old station measures 120 feet x 30 feet and houses one turbine. The new station is 140 feet x 60 feet and contains three turbines and an overhead traveling crane to service them. The flow in the river immediately downstream of the tailrace of the upper station is in the natural bedrock river channel and is within the middle dam impoundment.

ii. Lower Station Development. The lower station development consists of the middle dam, the middle canal headgate, the middle canal, the lower station gatehouse, penstocks, surge tanks and a powerhouse. The middle dam is a rock-filled, timber crib, gravity dam which is capped and reinforced with concrete. The dam includes a 328.6 foot long spillway with pin-type flashboards. The dam rises approximately 20 feet above the river bottom with a crest elevation (with flashboards) of 502.74 feet.

Adjacent to the middle dam is the 120 foot wide middle canal headgate with its 10 steel headgates. Within the middle canal and perpendicular to the headgates is a waste weir which diverts floating debris back to the natural river channel. The weir normally has a ten inch flashboard on its crest and its spillway is 120 feet long. The middle canal is approximately 2,400 feet long with a width of 175 feet at its upstream end, 95 feet at a typical mid-canal point and 75 feet near the lower station gatehouse. Depths in the canal range from 8 to 11 feet.

The lower station gatehouse contains motorized gatehoists and headgates for the lower station's penstocks. There are two twelve foot diameter penstocks extending from the gatehouse.

iii. Project Impoundments. Two impoundments are created by the project dams. The impoundment created by the upper dam has a surface area of approxmiately 419 acres with a normal surface elevation of 601.24 feet (MSL) with flashboards. The impoundment extends approximately 6 miles upstream to an area known as Bartlett Rips. The estimated gross storage capacity of the upper dam impoundment is 2,900 acre-feet with flashboards in place. The upper dam is operated as run-of-river and therefore, there is no usable storage capacity associated with the impoundment.

The middle dam impoundment is 21 acres with a corresponding normal maximum surface elevation of 502.74 feet above mean sea level. The estimated gross storage capacity of the impoundment is 141 acre-feet with flashboards. As with the upper dam impoundment, there is no usable storage capacity associated with the lower dam impoundment since the lower station is operated as a run-of-river facility.

c. Existing Project Operation: The project is operated as a run-of-river facility, that is, outflow equals inflow. The project experiences no appreciable water storage and relatively stable impoundment elevations.

Upper Station Development. The upper dam impoundment elevation, under normal flows, is controlled by a system which initiates start up and shutdown of the units according to the headwater elevation and which positions the turbine wicket gates to ensure optimum electrical output at all times. This system is usually set to maintain the headpond elevation at 601.14 feet. This method of control remains unchanged during adverse, mean and high water years. There is no

canal diversion of river flows at the upper station development and flows greater than 4,500 cfs spill over the dam.

Lower Station Development. As at the upper station, maximum head at the lower station is maintained by controlling the output of the generators and ensuring optimal electrical output at all times. The method of control remains the same during adverse, mean and high water years.

The normal operating water elevation for the lower station is 502.47 feet (with flashboards in place at the middle dam). The waste weir located in the middle canal utilizes 10-inch flashboards and maintains a normal operating elevation of 502.57 feet at this weir and 501.74 feet at the lower station intake. The lower station has two units which have a maximum combined hydraulic capacity of 2,800 cfs. River flows in excess of 2,900 cfs spill over the middle dam.

d. Summary of Proposal: The applicant proposes to operate the existing project in accordance with several measures for the protection or enhancement of, or mitigation of impacts on public resources. These measures include:

- Operating the project as run-of-river while maintaining a minimum flow in the river immediately downstream of the tailrace of 1,034 cfs or inflow, whichever is less;
- Establishing a public carry-in canoe access point below the project with parking for six to twelve vehicles.
- Working jointly with others in actively seeking and supporting future development of a formal carry-in access, with suitable off-road parking, in the Rumford Point area on the Androscoggin River.

2. JURISDICTION

The proposed continued operation of the project qualifies as an "activity...which may result in (a) discharge into the navigable water (of the United States)" under the Clean Water Act (CWA), 33 USC 1251 et seq. Section 401 of the CWA requires that any applicant for a federal license or permit to conduct such an activity obtain a certification that the activity will comply with applicable State water quality standards.

The project has been licensed as a water power project under the Federal Power Act (Project No. 2333). The initial project license was issued on May 14, 1965 and expires on December 31, 1993. The licensee has filed an Application for New License to continue to operate the Rumford Falls Hydroelectric Project for another 40 years. This application is currently pending before the Federal Energy Regulatory Commission.

The Department of Environmental Protection has been designated by the Governor of the State as the certifying agency for issuance of Section 401 Water Quality Certification for hydropower projects located in

organized municipalities subject to the Department's regulatory jurisdiction. The project is located in whole in the Town of Rumford, which is an organized municipality subject to the Department's jurisdiction.

3. APPLICABLE WATER QUALITY STANDARDS

a. Classification: The waters of the Androscoggin River in the project area are currently classified as follows:

From its confluence with the Ellis River to a line formed by the extension of the Bath Brunswick boundary across Merrymeeting Bay in a northwesterly direction - Class C. 38 M.R.S.A. Section 467(1)(A).

b. Designated Uses: Class C waters shall be of such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, and navigation; and as habitat for fish and other aquatic life. 38 MRSA Section 465(4)(A).

In an existing impoundment classified C, if reasonable changes can be implemented that do not significantly affect existing energy generation capability, and if those changes would result in improvement in habitat and aquatic life of the impounded waters, then those changes must be implemented. Where the actual water quality of the impounded waters attains any more stringent habitat characteristic or aquatic life criteria than that required under the assigned classification, the existing water quality must be maintained and protected. 38 M.R.S.A. Section 464(10).

c. Numeric Standards: The dissolved oxygen (DO) content of Class C waters shall be not less than 5 ppm or 60% of saturation, whichever is higher. 38 M.R.S.A. Section 465 (4)(B).

d. Narrative Standards: Discharges to Class C waters may cause some changes to aquatic life, provided that the receiving waters shall be of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community. 38 M.R.S.A. Section 465(4)(C).

e. Antidegradation: The Department may only approve water quality certification if the standards of classification of the waterbody and the requirements of the State's antidegradation policy will be met. The Department may approve water quality certification for a project affecting a waterbody in which the standards of classification are not met if the project does not cause or contribute to the failure of the waterbody to meet the standards of classification. 38 M.R.S.A. Section 464(4)(F).

4. DISSOLVED OXYGEN

a. Existing Conditions: At the request of the Department of Environmental Protection, the applicant conducted a water quality sampling program to determine compliance with Class C dissolved oxygen standards. The sampling plan was prepared in consultation with the DEP. The study, "Characterization of Existing Dissolved Oxygen Regime and Assessment of the Appropriateness of Reaeration at the Rumford Falls Hydro Project" (MAIN, 1989) used both historical and newly collected water quality data.

b. Applicant's Proposal: The applicant proposes to operate the project as run-of-river while maintaining a minimum flow in the river immediately downstream of the tailrace of 1,034 cfs or inflow, whichever is less.

c. Discussion: The applicant's study concluded that significant increases in DO would not be realized by modifying the operating mode of the Project and that the DO values and associated percent saturations measured indicated attainment with Class C DO standards.

The applicant's proposal to continue to operate the project as run-of-river while maintaining a minimum flow in the river immediately downstream of the tailrace of 1,034 cfs or inflow, whichever is less, should be adequate to maintain compliance with Class C DO standards.

5. FISH

a. Existing Resources: A comprehensive fishery survey of the Androscoggin River, including the project waters, was conducted in August and September of 1986 (QUEST, 1987). The survey revealed that the project waters of the Androscoggin River currently support a variety of warmwater fish species including chain pickerel, golden shiner, fallfish, white sucker, pumpkinseed, and yellow perch. No trout or salmon were collected during the survey.

b. Existing Management Plans: In the past (1986-1990), the Maine Department of Inland Fisheries and Wildlife (MDIF&W) stocked fall fingerling brook trout annually in the upper river between the New Hampshire border and Bethel, Maine. In 1991 the MDIF&W discontinued stocking in the Androscoggin River due to dioxin (TCDD) levels in fish and the health risks associated with eating contaminated fish.

The applicant coordinated a study plan with the U.S. Fish and Wildlife Service (USF&WS) and the MDIF&W regarding an assessment of possible flow requirements in the bypass reach between the middle dam and lower station necessary to protect the physical and biological quality of the Androscoggin River.

c. Applicant's Proposals:

i. Water Levels: The applicant proposes to operate the Project in a run-of-river mode at all flows. This measure will help minimize

water level fluctuations in the impoundment.

ii. Minimum Flows: The applicant proposes to operate the Project in a run-of-river while maintaining a minimum flow in the river immediately downstream of the tailrace of 1,034 cfs or inflow, whichever is less.

d. Discussion: Based on the results of the bypass reach study, the MDIF&W and the USF&WS comment that altering the existing flow regime in an attempt to enhance the bypass reach is not warranted. MDIF&W also comments that the operation of the project is not adversely affecting fisheries in the project area.

The Atlantic Sea Run Salmon Commission and the Department of Marine Resources both comment that there are no resources under their jurisdiction within the project limits. Fish passage at this project is not an issue.

The applicant's proposals to operate the project in a run-of-river mode while maintaining a minimum flow in the river immediately downstream of the tailrace of 1,034 cfs or inflow, whichever is less, appears to be adequate to achieve and maintain suitable use of the waters affected by the project as habitat for fish.

6. OTHER AQUATIC LIFE

a. Existing Resources: The project impoundment and surrounding shoreline support various species of water dependent mammals and water fowl. The applicant has conducted studies and determined that there are no rare or unusual invertebrate or vertebrate species in the project area.

b. Applicant's Proposal: The applicant proposes to operate the project as run-of-river, thereby limiting fluctuations in impoundment levels.

c. Discussion: The MDIF&W comments that as a result of the stable impoundment levels, the operation of the project is not having an adverse impact on wildlife resources.

The applicant's proposal to operate the project as run-of-river appears to be adequate to achieve and maintain suitable use of the waters affected by the project as habitat for other aquatic life.

7. FISHING AND RECREATION IN AND ON THE WATER

a. Existing Facilities and Use: General recreational use at the project presently consists of boating, fishing, swimming, and picnicking. The applicant has identified several boat launch access points and day use areas that it is responsible for having provided land for or for having developed.

In 1991, the applicant supported the establishment of a low environmental impact canoe access to the Androscoggin River at a site

above the project boundary in Gilead, Maine. The applicant worked with the Department of Conservation (DOC), DIF&W, the Town of Gilead and the Friends of the Androscoggin throughout the development of the site. This access area is consistent with the "State Comprehensive Outdoor Recreational Plan" discussed below.

b. Existing Management Plans: In 1988, the DOC developed the "State Comprehensive Outdoor Recreational Plan". The Plan was developed to identify needs/deficiencies for recreational facilities throughout the state of Maine. The DOC utilized this report in making its recommendations for new/improved recreational facilities at the project.

c. Applicant's Proposals: In response to suggestions made by the Department of Conservation and the MDIF&W, the applicant proposes the following:

- Establishment of a public carry-in canoe access in Mexico, Maine, with parking for six to twelve vehicles.

- To work jointly with others to actively seek and support the future development of a formal carry-in access, with suitable off-road parking, in the Rumford Point area on the Androscoggin River.

d. Discussion: The applicant has submitted plans for the carry-in boat access site below the project. The site was selected and designed in consultation with the Department of Inland Fisheries and Wildlife, the Department of Conservation, the U.S. Fish and Wildlife Service, the Maine Historic Preservation Commission and the Town of Mexico.

The applicant's proposals to provide a carry-in boat access site below the project waters and to continue to work jointly with others to seek and support the future development of a formal carry-in access site in the Rumford Point area appear to be adequate to achieve and maintain suitable use of the waters affected by the project for fishing and recreation in and on the water.

8. HYDROELECTRIC POWER GENERATION

a. Existing Energy Generation: The Rumford Falls hydroelectric project generates an average of 270,302 Megawatt-hours (MWH) of electricity annually. This is equivalent to the energy that would be produced by burning 450,503 barrels of oil or 125,255 tons of coal each year. All the power generated by the Rumford Falls Hydro Project is utilized by its one customer, the Boise Cascade Mill.

b. Existing Energy Policies/Plans: The State of Maine has adopted an Energy Resources Plan (Office of Energy Resources, October 1987) designed to "promote the present and future economic well-being of Maine residents and businesses by ensuring the availability of reliable energy at the lowest possible cost." Specifically, the Plan calls for the State to:

- Encourage cost-effective energy conservation measures in the public sectors and least cost planning in the electric and gas industries;

- Promote the environmentally-sound development and use of cost-effective indigenous and renewable energy resources;

- Pursue strategies designed to reduce the cost of all imported energy and to increase the availability of natural gas in the state; and

- Encourage the diversification of energy investments in Maine.

With respect to hydroelectric power, the Plan recommends that the development of hydropower be encouraged in a manner consistent with the Maine Rivers Act and that the upgrading of existing hydroelectric dams be examined during relicensing.

c. Applicant's Proposal: The applicant completed several evaluations on the feasibility of upgrading generation capacity at the project. Based on the results of these evaluations, the applicant has determined that it is not economically feasible to upgrade at this time and proposes to continue operating the project without any changes in increased generating capacity.

d. Discussion: As proposed, the Rumford Falls Hydro Project will continue to provide cost-effective indigenous and renewable electricity.

BASED on the above Findings of Fact, and the evidence contained in the application and supporting documents, and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

1. The continued operation of the project will result in the affected surface waters being suitable for all Class C designated uses provided that:

   i. the project is operated as run-of-river (outflow equals inflow) while maintaining a minimum flow in the river immediately downstream of the tailrace of 1,034 cfs or inflow, whichever is less;

   ii. the upper dam impoundment level is maintained within one foot of its full pond elevation of 601.24 feet while flashboards are in place, and the middle dam impoundment level is maintained within one foot of its full pond elevation of 502.74 feet while flashboards are in place.

   iii. a public carry-in canoe access point below the project with parking for six to twelve vehicles is established and the applicant works jointly with others to actively seek and support the future

development of a formal carry-in access, with suitable off-road parking, in the Rumford Point area on the Androscoggin River.

2. The continued operation of the project will result in Class C numeric standards for dissolved oxygen standards being met in the affected waters provided that the facility is operated as run-of-river (outflow equals inflow) while maintaining a minimum flow in the river immediately downstream of the tailrace of 1,034 cfs or inflow, whichever is less.

3. The continued operation of the project will result in Class C narrative standards for aquatic life being met in the affected waters provided that the facility is operated as run-of-river (outflow equals inflow) while maintaining a minimum flow in the river immediately downstream of the tailrace of 1,034 cfs or inflow, whichever is less.

4. The continued operation of the project will comply with the State's antidegradation policy provided that the project is modified and operated in accordance with the conclusions reached above.

THEREFORE, the Department GRANTS certification that there is a reasonable assurance that the continued operation of the Rumford Falls Hydroelectric Project, as described above, will not violate applicable water quality standards, SUBJECT TO THE FOLLOWING CONDITIONS:

1. MINIMUM FLOWS

   A. Except as temporarily modified by emergencies beyond the applicant's control, as defined below, the project shall be operated as run-of-river (outflow equals inflow) while maintaining a minimum flow in the river immediately downstream of the tailrace of 1,034 cfs or inflow, whichever is less.

   B. Operating emergencies beyond the applicant's control include, but may not be limited to, equipment failure, flashboard failure or other temporary abnormal operating condition, generating unit operation or interruption under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.

2. WATER LEVELS

   A. Except as temporarily modified by approved maintenance activities, inflows to the project area, or by operating emergencies beyond the applicant's control, as defined below, water levels in the upper impoundment shall be maintained within one foot of full pond elevation of 601.24 feet (top of flashboards), and water levels in the middle dam impoundment shall be maintained within one foot of full pond elevation of 502.74 feet (top of flashboards).

   B. Operating emergencies beyond the applicant's control include, but may not be limited to, equipment or flashboard failure or other temporary abnormal operating condition, generating unit operation or

interruption under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.

C. The applicant shall, in accordance with the schedule established in a new FERC license for the project, submit plans for providing and monitoring the water levels in the upper impoundment as required in Part A of this condition. These plans shall be reviewed by and must receive approval from the DEP Bureau of Land Quality Control.

3. RECREATIONAL ACCESS

A. The applicant shall provide a public carry-in canoe access point below the project with parking for six to twelve vehicles, and the applicant shall work jointly with others to actively seek and support the future development of a formal carry-in access, with suitable off-road parking, in the Rumford Point area on the Androscoggin River.

B. In accordance with the schedule established in a new FERC license for the project, the applicant shall prepare a plan for implementing the items required in Part A of this condition. The plan shall include a construction schedule for the public carry-in access below the project. The applicant shall notify the Department annually regarding the status of seeking access in the Rumford Point area of the Androscoggin River. The plan must be reviewed by the Department of Conservation and must receive approval from the DEP Bureau of Land Quality Control.

4. LIMITS OF APPROVAL

This approval is limited to and includes the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. All variances from the plans and proposals contained in said documents are subject to the review and approval of the Board or Department prior to implementation.

5. COMPLIANCE WITH ALL APPLICABLE LAWS

The applicant shall secure and appropriately comply with all applicable federal, state and local licenses, permits, authorizations, conditions, agreements and orders required for the operation of the project.

6. EFFECTIVE DATE

This water quality certification shall be effective on the date of issuance of a new hydropower project license by the Federal Energy Regulatory Commission (FERC) and shall expire with the expiration of this FERC license.

RUMFORD FALLS POWER COMPANY RUMFORD, OXFORD COUNTY, MAINE RUMFORD FALLS HYDROELECTRIC PROJECT L-17643-33-A-N (APPROVAL)	)	11 MAINE WATER QUALITY PROGRAM; FEDERAL CLEAN WATER ACT WATER QUALITY CERTIFICATION

DONE AND DATED AT AUGUSTA, MAINE, THIS 17th DAY OF December, 1992

DEPARTMENT OF ENVIRONMENTAL PROTECTION

By: _____
Dean C. Marriott, Commissioner

PLEASE NOTE ATTACHED SHEET FOR APPEAL PROCEDURES

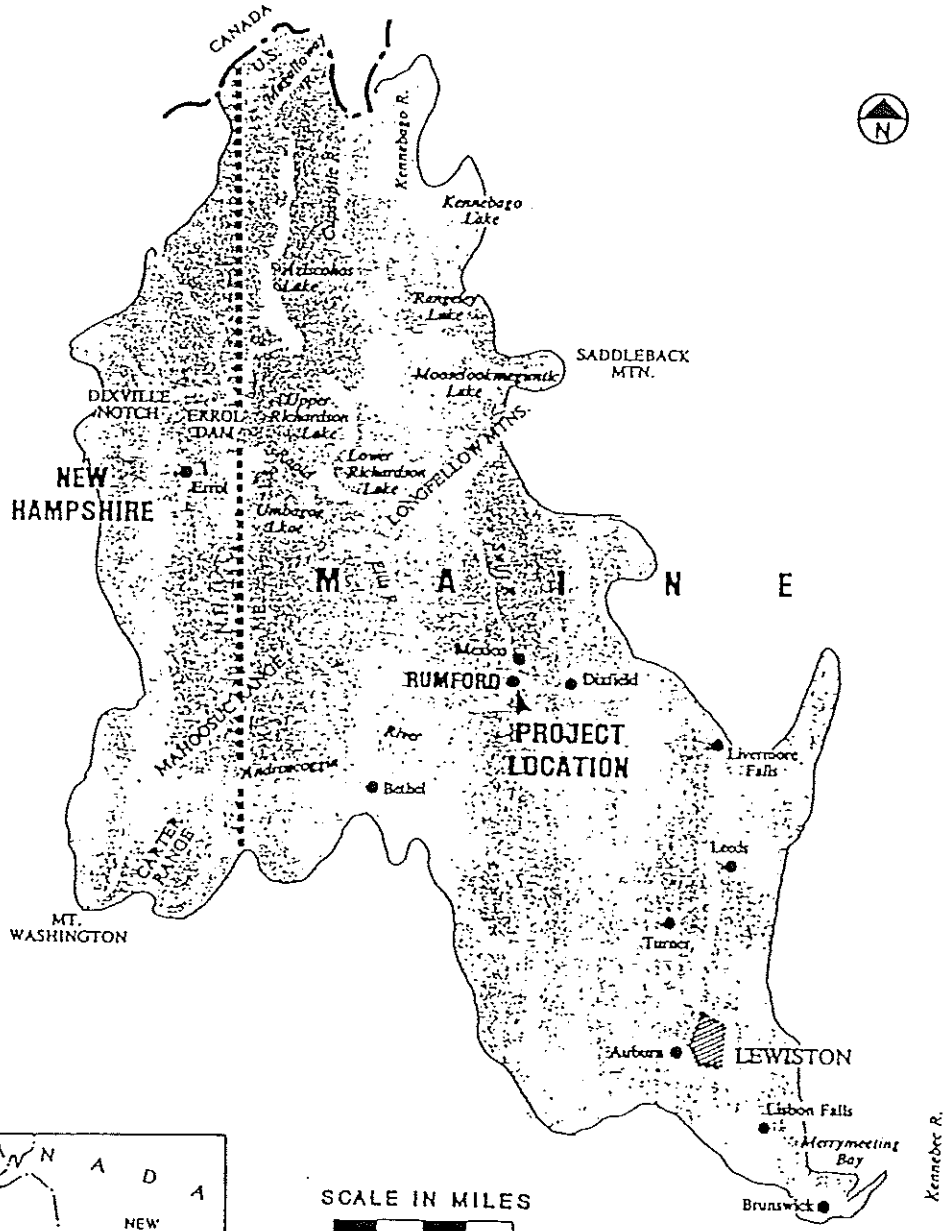
Date of initial receipt of application 1/2/92.
Date application accepted for processing 1/13/92.

FILED
DEC 17 1992
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

Date filed with Board of Environmental Protection

blm/rumford

Exhibit 1



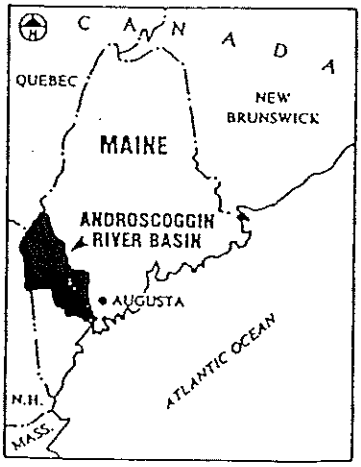


FIGURE A-1	MAIN 1893
RUMFORD FALLS PROJECT RUMFORD FALLS POWER COMPANY	
GENERAL LOCATION	

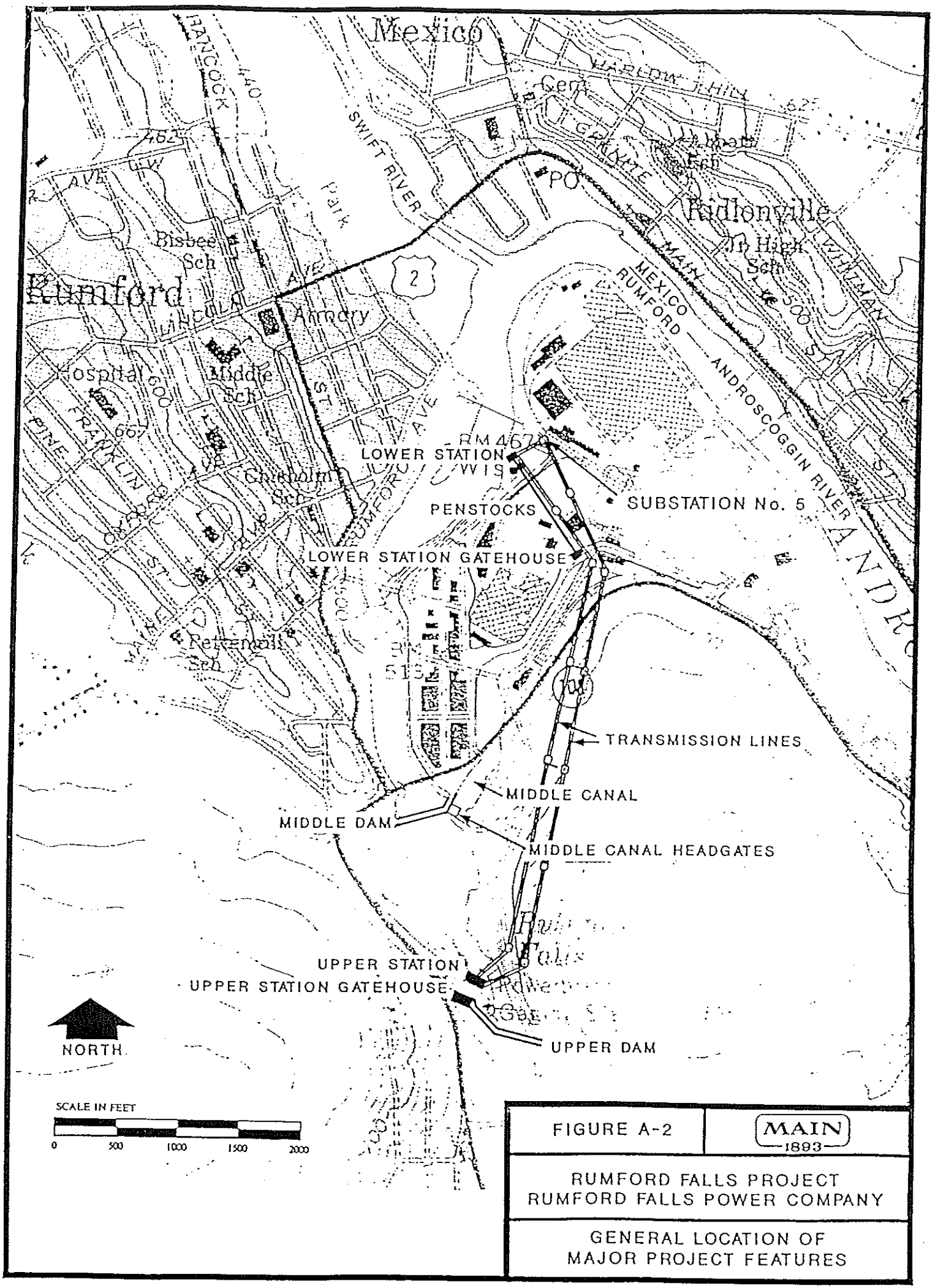


FIGURE A-2	MAIN 1893
RUMFORD FALLS PROJECT RUMFORD FALLS POWER COMPANY	
GENERAL LOCATION OF MAJOR PROJECT FEATURES	